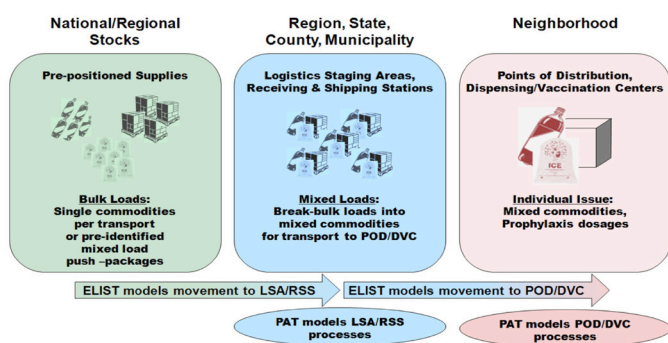


Logistics and Process Analysis Tool (LPAT) Applied to Emergency Management

Originally developed for the Department of Defense, Argonne's Logistics and Process Analysis Tool (LPAT) has been modified and extended to give emergency management or public health users the ability to test, analyze and understand supply-chain interactions and influences. LPAT permits users to determine the likely consequences of transportation and process decisions before commitments are made.

The Challenge

The Chicago Department of Public Health (CDPH) wanted to model, analyze, and validate their Cities Readiness Initiative (CRI) plan, which calls for a mass dispensing of medicine to the entire city of Chicago population.



CDC's Strategic National Stockpile process modeled in LPAT at various stages.

The Solution

LPAT analyzed CDPH requirements to map logistical resources required by emergency management and public health officials in order to successfully execute their CRI plan within the 48-hour time constraint dictated by the Centers for Disease Control and Prevention.

The Results

CDPH and Argonne identified steps and resources with the greatest bottlenecks and determined where their plans were most likely to break down. The results of this analysis helped CDPH planners to streamline their plans by modifying distribution policies and priorities.

Future Work

LPAT will be used by:

- ▶ CDPH and the Florida Department of Health to evaluate their H1N1 plans;
- ▶ Defense Threat Reduction Agency (DTRA), to analyze multiple situations and responses of personnel passing through one or more security checkpoints; and
- ▶ DTRA, to model the effects of limited medical resources responding to a chemical, biological, radiological, or nuclear event.

"LPAT is being used by state and local emergency management planners to model the logistics and transportation feasibility of their disaster response plans," says Chuck VanGroningen, principal computer systems engineer, Argonne National Laboratory.

"Chicago evaluated their mass prophylaxis dispensing campaign and was able to quantify for their leadership the effects of patient level of care and staffing levels at the prophylaxis dispensing sites."